interworking is not a pressing issue for WCX, because it will work fine on AT&T's LTE network even without interworking the two companies' managed voice products. Therefore we have not pursued it in this complaint.

AT&T's Answer package asserts that WCX does not provide interconnected service, so AT&T has no obligation to provide automatic roaming under 20.12(d).[23] That is simply and flatly wrong. WCX provides a VoLTE-based voice service that is real-time, two-way and switched. It uses regular phone numbers and can both send and receive calls from the rest of the public switched network. This is an "interconnected service" and the plain and clear words of 20.12(a)(2) and (d) apply. AT&T cannot avoid its duty to provide automatic roaming on the ground it has not yet agreed to interwork its own VoLTE product with WCX's VoLTE product. We may never interwork our respective managed VoLTE products, but AT&T will still always have to provide automatic roaming.

Devices

As I mentioned above in my discussion about M2M, AT&T's Prise touts multiple phones, tablets and hotspots that can have multiple band technology and then lists many in his declaration. He simply concludes all is fine with the competitive world.

I described above that for M2M, WCX is limited in being able to deploy in a viable "ecosystem" and that currently only Band 13 (Verizon) and Band 17 (AT&T) are viable; thus for M2M we are limited today. Band 12 does not yet have an ecosystem. And, again, [redacted]

I will now provide the promised discussion of LTE handset and tablet availability and the difference between unlocked and open devices.

In order for WCX to be able to use a device it must both be "unlocked" and "open" by design.

[23] Answer, ¶19.

AT&T's Expert Prise does not profess to know the difference. This is somewhat surprising since AT&T is the industry's most clever carrier at closing its devices by design so that they are not practical in being used by other carriers. I suspect he does know the difference and chose to ignore the significance.

AT&T is the best, but it is not alone. All the major carriers, including Sprint, T Mobile and Verizon, engage in purposeful "closing" of devices by design when they are made. What this means is that each of these carriers individually request from the manufactures, such as Asus, Motorola, Pantech, Apple, Samsung, etc. a specialized version of the device to be "made" just for that specific carrier.

When the device is "made" there are sometimes marketing and logo "imprints" embedded into particular aspects of the hardware or software of those devices. Some may seem innocent, such as having the AT&T Logo flash on the screen upon start up. We have purchased after market devices that had this logo, and it could not be removed. We decided for legal reasons that we could not offer those devices for sale because it might cause sponsorship confusion, and therefore legal liability. Other things are more technical, such as a particular software dialer or SMS controller embedded into what appears to be the operating system. Still others may seem more devious, like burying customer proprietary tracking information of the users' locations automatically sent back to the carrier without the user noticing. WCX was not interested in devices that report our users' private activity to third parties, and once again there are potential legal liability problems since much of that information could be CPNI. Still other attributes seem to have what at first appear to be good customer service planning like having the ability to push updates to an operating system or to embedded programs such as the aforementioned dialer or a video player. For example, imagine a new codec is created by Netflix and is offered to AT&T as a way to reduce bandwidth use. If AT&T can push the update to all of its devices, it can save huge amounts of bandwidth.

Typically all of these customizations happen in collaboration with the carrier making a commitment to order some number of phones or tablets or hotspots (usually in lots of 10,000) and they utilize a particular operating system to support the devices. The vast majority of all of

the “imprints” are software driven in what the industry has termed the “framework” of the phone. The “framework” is by purpose and design hidden from application developers and is not part of any “unlocking” process. In other words, by design, a closed phone/tablet/hotspot, even if unlocked, can never be “opened.”

As a practical consequence there is not a real aftermarket or secondary market for any devices that are designed to be closed, since they are not actually “usable” and supportable by the new carrier. Imagine the prospect of all of your customer’s devices suddenly ceasing to work at the same time because AT&T or Sprint pushed an update to the device over the internet. This actually happened when we were testing aftermarket and “unlocked” but still closed LTE “Pantech Element” tablets. The supplier was shocked as well, but there is no practical or inexpensive fix for this issue.

With possibly one exception, none of the phones or devices listed by Mr. Prise are in fact usable by WCX, regardless of the Band Plan because of the “unlocked but still closed” reason. Every phone and every device is tightly tied to one of the major carriers. We are completely powerless in this regard. We cannot open any of them to remove all of the built in carrier specific attributes, several of which raise significant privacy or other legal liability concerns.

AT&T expert Prise also notes in paragraph 11 and footnote 12 of his declaration that WCX is using a 2011 version of the Sierra Wireless hotspot and that AT&T is using the more current versions. I was able to get a relatively small quantity of those devices made “generic” and “open” after I personally contacted the CEO of Sierra Wireless. It should be noted that “non generic” versions designed for AT&T will literally turn themselves off and become “not usable.” We know, because we have had customers desire to bring their own “unlocked” AT&T Sierra 754 and use it. What we found was, that depending upon the “build and load” date of the embedded framework on that specific Sierra 754 device, that devices becomes unusable on a competitive network. I say not usable because the customer dissatisfaction of the unlocked device resetting and turning itself off makes the device undesired.

Sierra has since sold its hotspot division to Netgear, and Netgear no longer makes an “open” or “generic” version. Once our current supply of Sierra Wireless hotspots is exhausted we will

have no more of these types of hotspots at all, and no replacements can be purchased on the market – unless we commit to volumes far larger than we could ever use.

AT&T expert Prise also makes reference twice to the Nexus 7 at paragraphs 3 and 11.

The Nexus 7, by design, is *advertised* by Google as "open." I say advertised, because this is where AT&T has gotten exceedingly clever. AT&T has still succeeded in making the Nexus 7 somewhat closed with respect to the Band Plans AT&T operates on. While Google has made an effort to have all of its products "not" follow the market in how it opens and closes specific devices, and says it sells all "generic" devices, Google has nonetheless allowed AT&T to force devices to behave only in the way that AT&T desires.

The Nexus 7 advertises the ability to work on multiple LTE Bands (including Band 17) but it has multiple other capabilities as well. One important one is for the Nexus 7 to serve as a hotspot so other devices such as TVs, Computers and other smartphones can connect to the Internet. The hotspot function is particularly key for WCX since many of our customers use WCX as their primary broadband provider.

AT&T and Verizon, for their own internal reasons, will not allow a Hotspot Function from the Nexus 7. But because Google promised an "open" device, it would not make a unique version for just AT&T or Verizon. So what was the Google/AT&T/Verizon joint solution?

They built into the framework of **all the Nexus 7 devices** a hidden disabling function for the Nexus 7 Hotspot function. The hidden framework disables the hotspot based on the Band Plan request made by the SIM/USIM. This means AT&T and Google (by having ASUS deploy the framework described) have disabled WCX's ability to provide a Hotspot using the Nexus 7, because our network is Band 17. When a SIM or USIM attempts to negotiate a Band 17 LTE connection, the Nexus 7 automatically turns off the hotspot functionality. We cannot disable the automatic disable without Google allowing a rewrite and supporting such a rewrite of their software. The Nexus 7 – a so called "open" device – is still "closed" in one respect that makes it mostly unusable.

We do have the Nexus 7 in our network today, but it is not favored by a single customer when compared to the 2011 Sierra “Generic” 754 Hotspot. The reason? Customers want a Hotspot.

[redacted]

Future Smartphone Services

[redacted]